San Jose to Merced Alternatives Analysis

Gilroy City Council Study Session

Project Briefing California High-Speed Train

July 19, 2010

Lead Agencies

STATE

California High-Speed Rail Authority

- California Environmental Quality Act (CEQA) Lead Agency

FEDERAL

Federal Railroad Administration

- National Environmental Policy Act (NEPA) Lead Agency

California High-Speed Train System

- Provide a new mode of high-speed intercity travel to link major metropolitan areas
- Forecasted to carry as many as 100 million passengers annually by the year 2035
- 800-mile system with stations built to allow for express service
- Service linking the San Francisco Bay Area, Central Valley and Southern California
- 100% clean electric power
- Estimated travel time from San Francisco to Los Angeles: less than 2 hours 40 minutes

Environmental Benefits

Congestion costs Californians about $20 billion a year in wasted fuel and lost time. With up to 100 million riders a year by 2035, high-speed trains will reduce that impact.

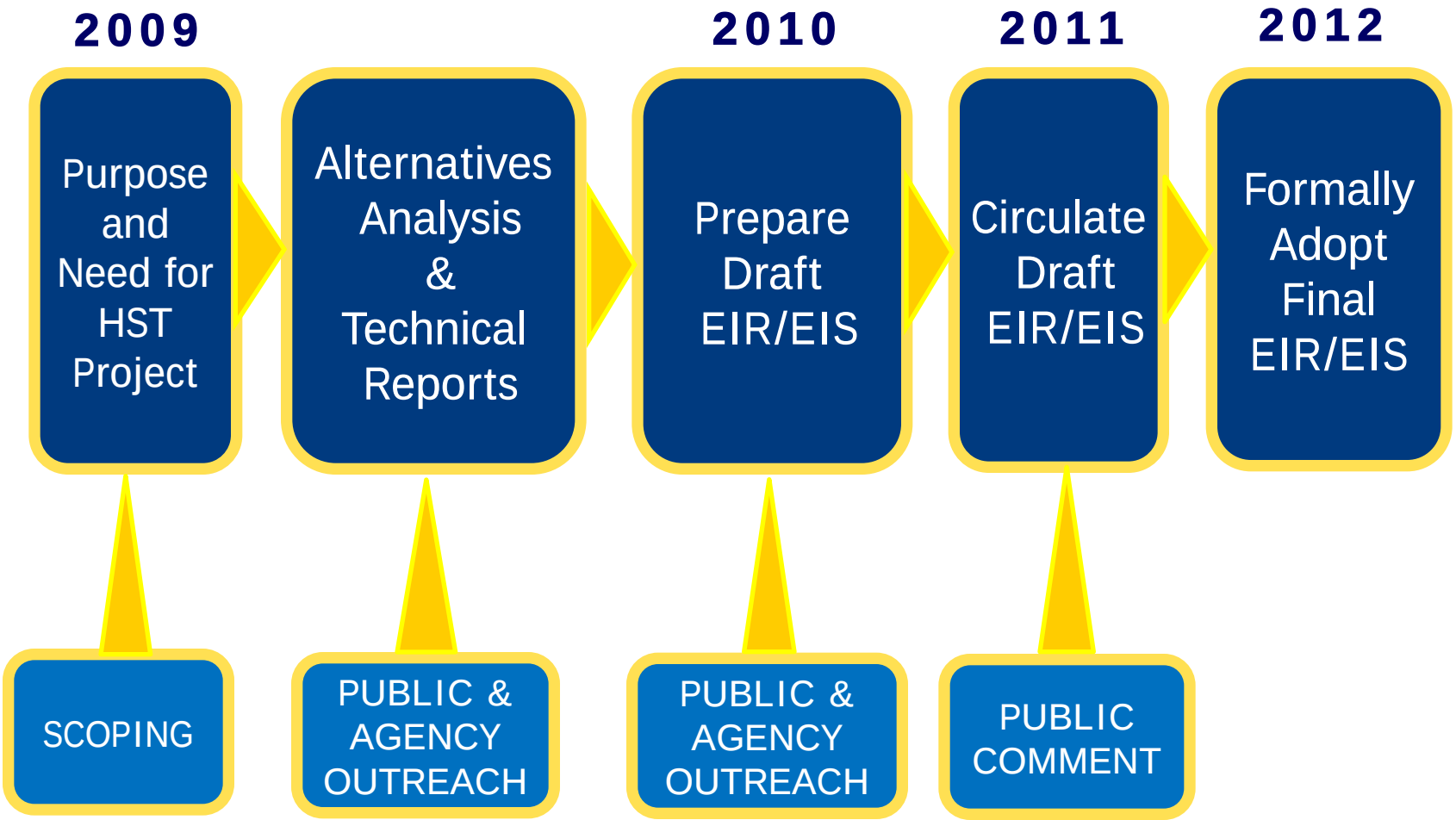
- 1/3rd the energy of airplanes
- 1/5th the energy of passenger cars
- Dependence on foreign oil reduced by 12.7 million barrels a year
- Greenhouse gases cut by 12 billion pounds a year
- Improved air quality and related health care costs

Economic Benefits

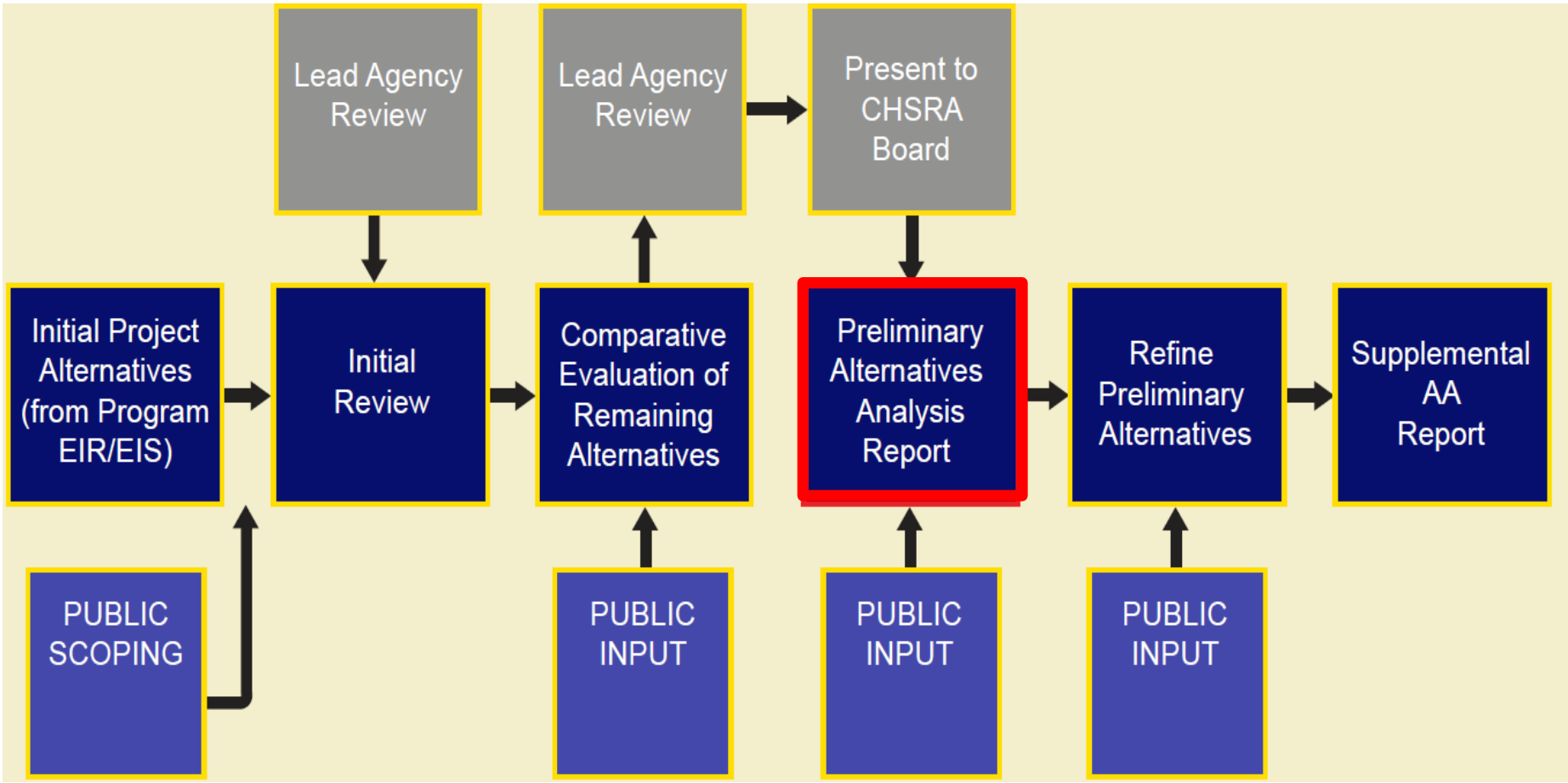
- Nearly 600,000 construction-related jobs
- 450,000 permanent jobs for California's economy
- Improved movement of people, goods and services
- Faster travel times for train riders
- Congestion relief for freeways and airports
- Reduced need to spend nearly $100 billion over next 20 years for...
  - Up to 3,000 lane-miles of new freeway
  - 5 airport runways and 90 departure gates

Northern California Network

Environmental Review Schedule



Alternatives Analysis Process



Areas of Environmental Analysis

- Transportation
- Air Quality
- Noise & Vibration
- Electromagnetic Interference/ Electromagnetic Frequency
- Public Utilities & Energy
- Biological Resources & Wetlands
- Hydrology & Water Resources
- Geology, Soils, Seismicity
- Hazardous Materials/Wastes
- Safety & Security
- Socio Economics, Communities & Environmental Justice
- Local Growth, Station Planning, Land Use, & Property
- Agricultural Land
- Parks, Recreation and Open Space
- Aesthetics & Visual Quality
- Cultural Resources
- Construction Methods and Impacts
- Cumulative and Secondary Impacts
- Section 4(f) & 6(f) Evaluation
- Mitigation Summary

Public Outreach Activities

October 2009

- 4 Technical Working Group (TWG) meetings: 65 attendees
- 3 public meetings: 300 attendees

December 2009/January 2010

- 4 TWG meetings: 55 attendees
- 3 public meetings: 300 attendees

March 2010

- San Jose Tunnel community workshop: 150 attendees

May 2010

- 5/3 Gilroy City Council study session: 100 attendees
- 5/5-6 San Jose AA open houses: 130 attendees

Other agency and community interest group meetings:

- 65 meetings conducted during the AA period with public agencies, cities, city councils, chambers of commerce, neighborhood representatives and more

Gilroy Area Community Engagement

The Process will assist the Authority in ensuring:

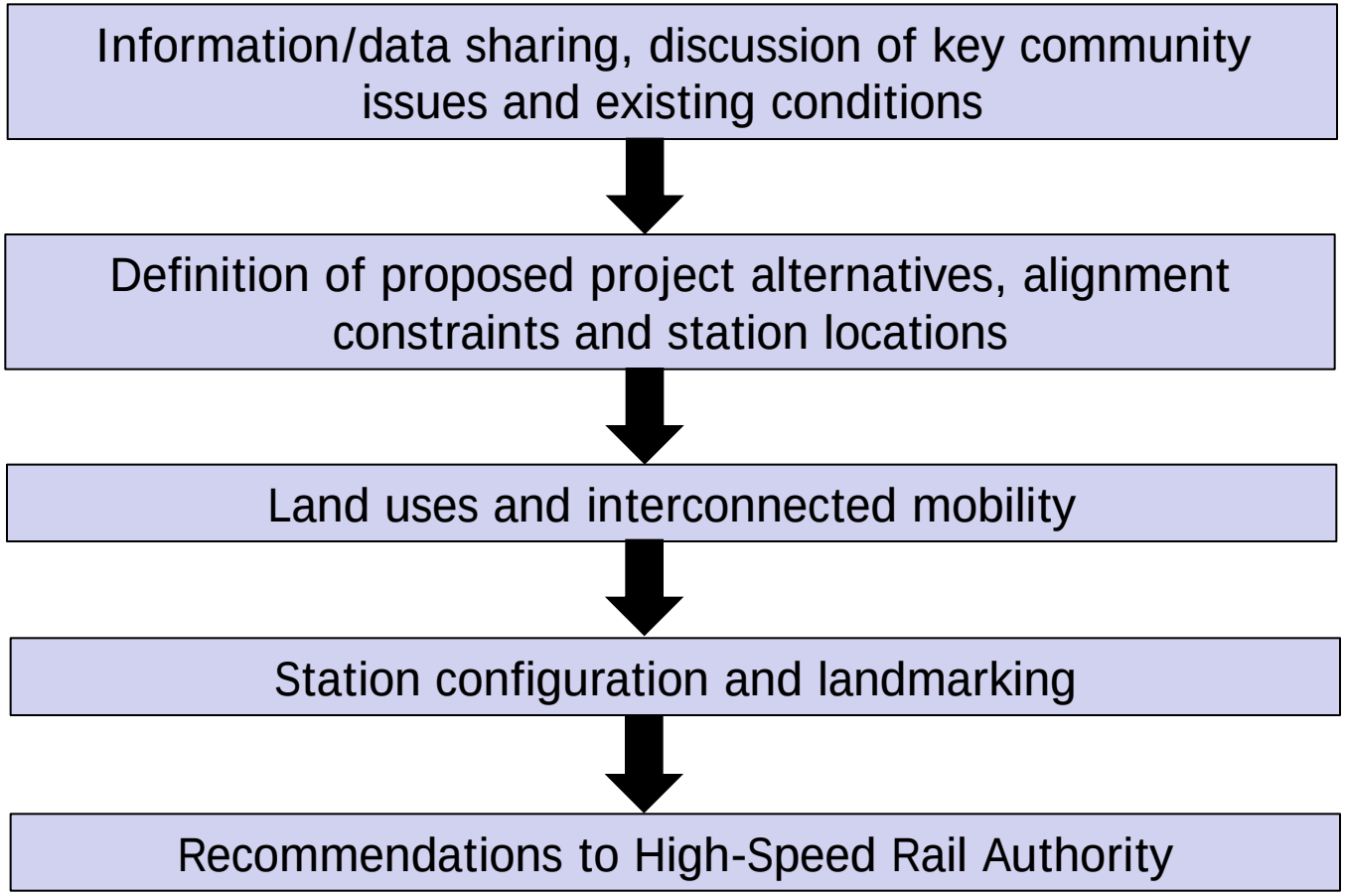
- that the community will be well informed, and as such, in a position to provide valuable input regarding their preferences

- that all the pertinent issues (noise, circulation, parking, vibration, etc.) are discussed and documented during the workshops

- that the alignment/station option(s) selected are based on both system needs and input from the community

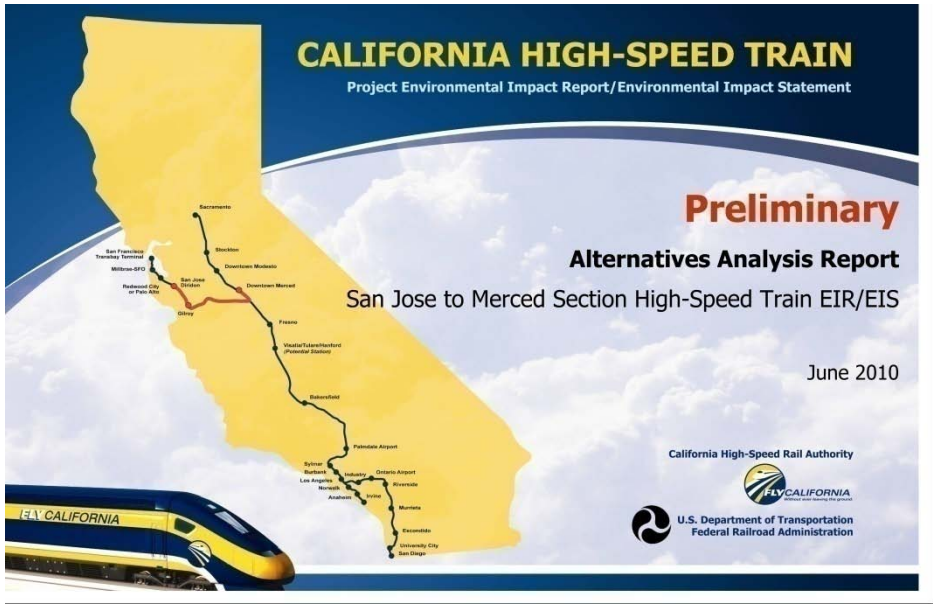
Gilroy Area Community Engagement

The Authority and City refining process that will include:



Preliminary Alternatives Analysis

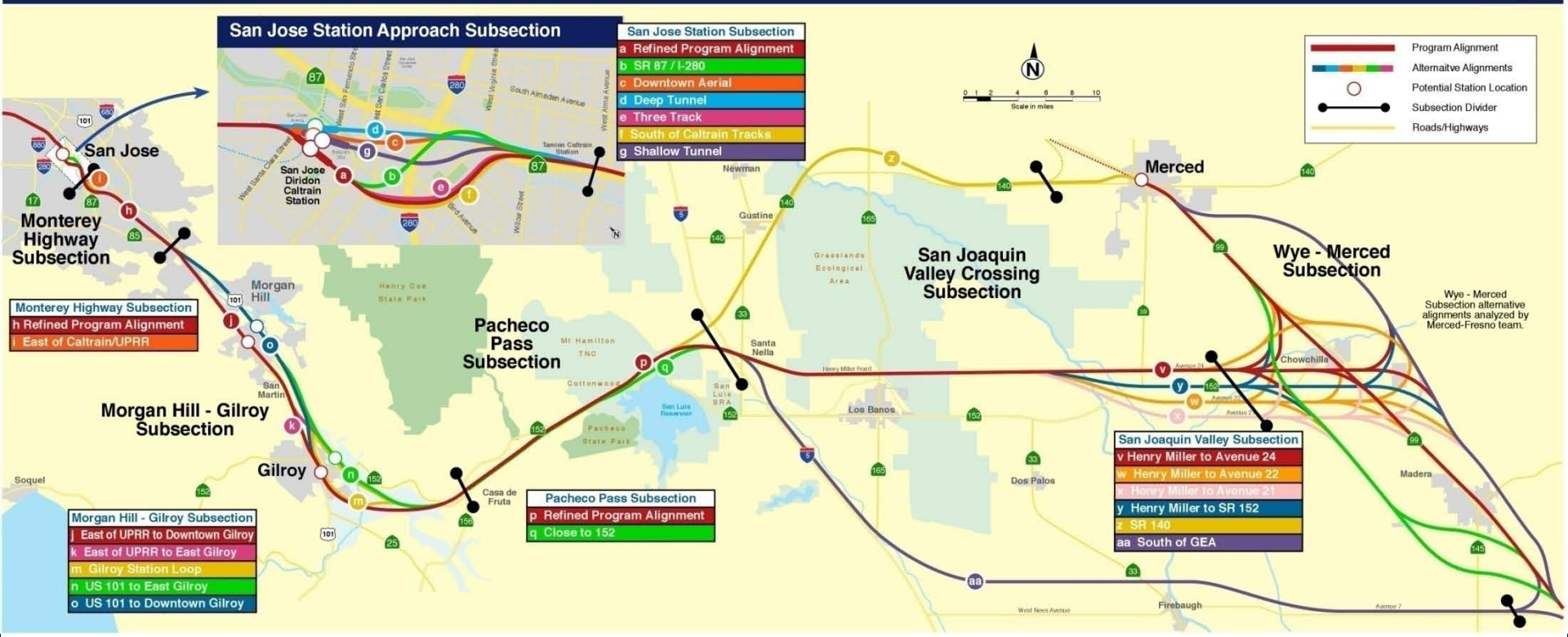
- Preliminary Alternatives Analysis posted *at* www.cahighspeedrail.ca.gov
- Evaluated alignment & stations from scoping (Spring 2009 – Fall 2009)



- Initial presentation to Board December 3, 2009
- Preliminary AA includes input since then
- Technical Studies – e.g., tunnel options in San Jose
- Extensive agency & public outreach

Sub-Sections for Evaluation

San Jose to Merced Section - Alignment Alternatives



Downtown San Jose Sub-Section

Deep Tunnel (withdrawn)

- Construction complexity / risks
  - Poor soils / potential settlement
  - Groundwater issues / infiltration
  - Soil improvement from surface
  - No HST mined station in world
  - 140 feet underground
  - 7–16 years to build
- National Register archeological site
- Reconstruction of Tamien Station & SR 87 northbound ramp
- Costs 7 times base case
- **Impractical**

Deep Tunnel Issues

- **Mined HST station in poor soils & high groundwater**
  - **1,380-ft long, 70-ft wide, 40-ft high, 140-ft deep**
  - **Inject stabilization chemicals from surface**
  - **Potential settlement - cost for repairs & damages**
  - **Risk of groundwater infiltration**
  - **Unsafe mining conditions to craftsmen & equipment**
- **Type of construction not under consideration for CA HST stations**
  - **Has not been used for any HST station in world**
- **Construction duration - 7 to 16 years**

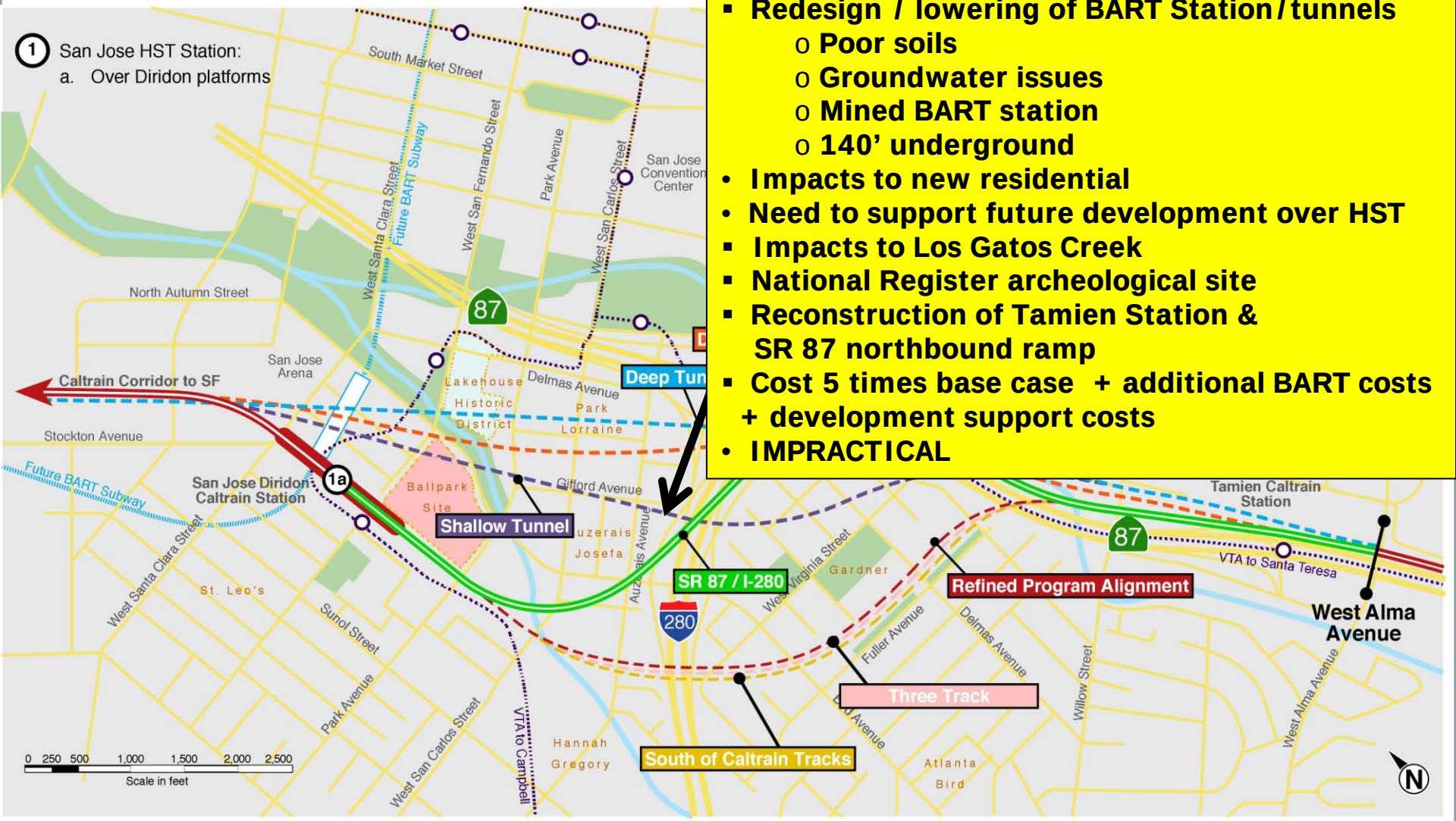
Deep Tunnel Issues (continued)

- **Settlement potential - SR87/I-280 interchange foundations**
- **Surface impacts - ventilation, stairs, elevator shafts, emergency access - effects on residential & businesses – possible relocations**
- **Reconstruction of the Tamien Station**
- **Relocation & reconstruction of northbound SR 87 on-ramp**
- **Affect National Register archaeological site**
- **Higher operating costs**
- **Higher capital costs 7 times base case**
- **IMPRACTICAL**

Downtown San Jose Sub-Section

Shallow Tunnel (withdrawn)

- **Redesign / lowering of BART Station / tunnels**
  - **Poor soils**
  - **Groundwater issues**
  - **Mined BART station**
  - **140' underground**
- **Impacts to new residential**
- **Need to support future development over HST**
- **Impacts to Los Gatos Creek**
- **National Register archeological site**
- **Reconstruction of Tamien Station & SR 87 northbound ramp**
- **Cost 5 times base case + additional BART costs + development support costs**
- **IMPRACTICAL**

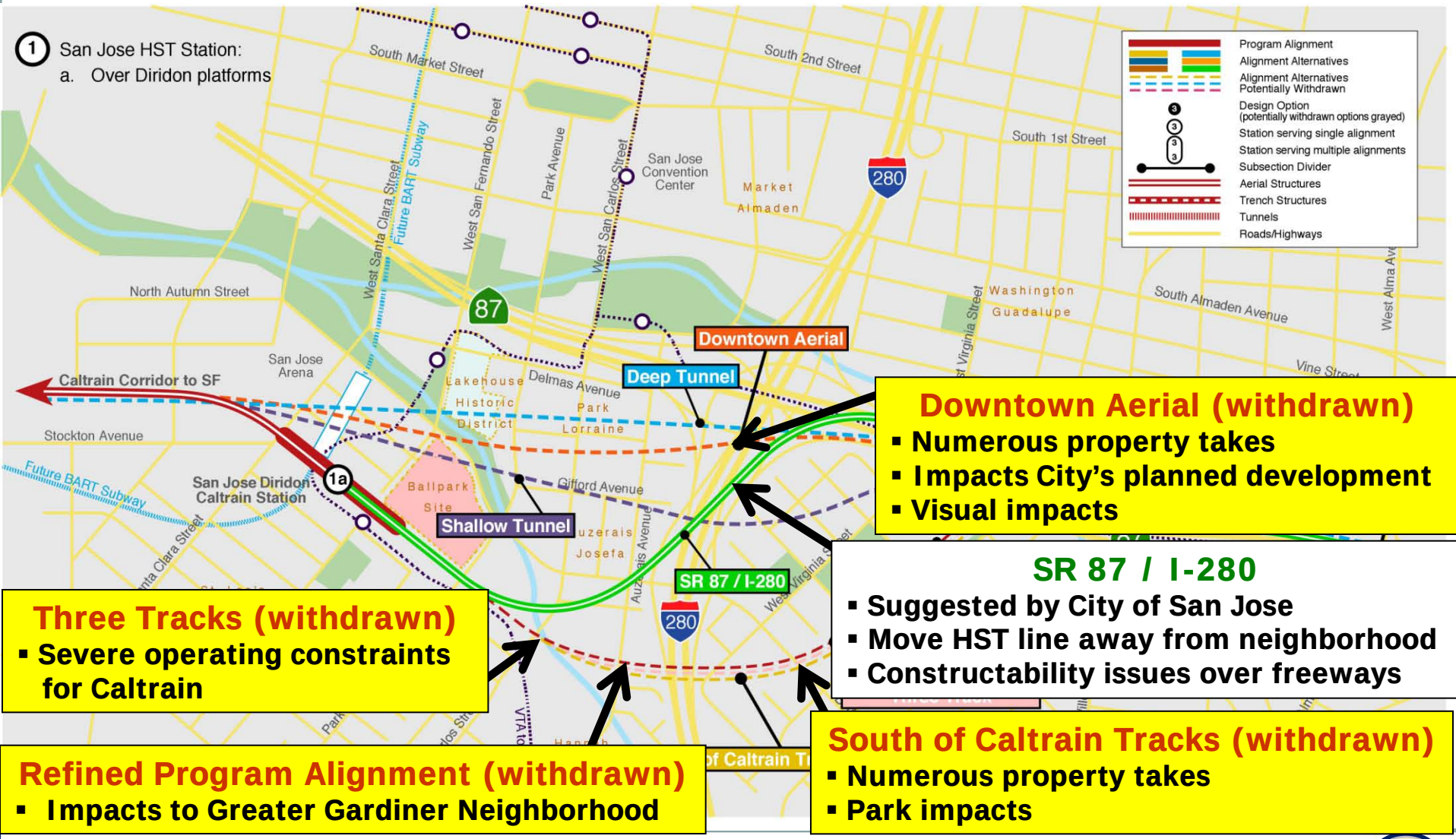


Shallow Tunnel Issues

Cut-and-cover Construction
Los Angeles

- **BART Impacts:**
  - Proposed current cut & cover station 60’ deep -
  - Would be lowered to 140’ & mined in poor soils/groundwater
  - Tunnels to Santa Clara & Downtown San Jose stations would be lowered
    - Steeper tunnel grades
- **Impacts to:**
  - Utilities & streets
  - Los Gatos Creek
  - VTA – Vasona light rail line
  - Existing residential & commercial
  - National Register archeological site
  - Tamien Station reconstruction
  - SR 87 on-ramp reconstruction
- **7 years to construct**
- **Cost 5 Times Base Case + BART costs + concrete slab on top for development**
- **IMPRACTICAL**

Downtown San Jose Sub-Section



Monterey Highway Sub-Section

Monterey Highway – Existing

Monterey Highway – Proposed

Refined Program Alignment

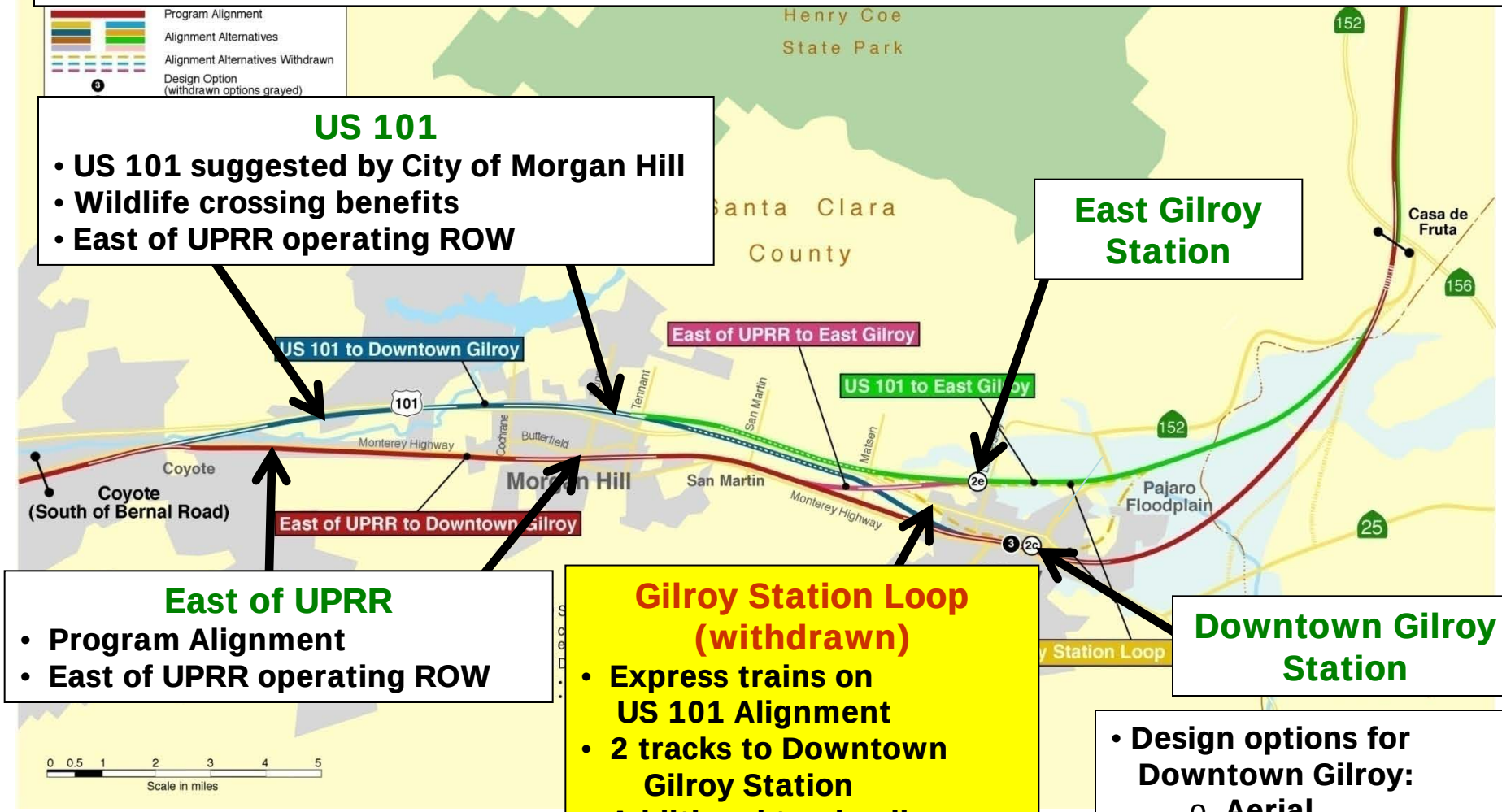
- Fewer constructability issues
- Faster speed HST curve – 125mph
- Monterey Highway from 6 to 4 lanes for 2.5 miles

East of Caltrain/UPRR (withdrawn)

- Continuation of withdrawn tunnel alternatives
- Reconstruction of Tamien Station & SR 87 northbound ramp
- Monterey Highway from 6 to 4 lanes for 2.5 miles
- Slower speed HST curve – 85 mph

Morgan Hill – Gilroy Sub-Section

COMBINATIONS OF TWO ALIGNMENTS AND TWO STATION LOCATIONS



US 101

- US 101 suggested by City of Morgan Hill
- Wildlife crossing benefits
- East of UPRR operating ROW

East Gilroy Station

East of UPRR

- Program Alignment
- East of UPRR operating ROW

Gilroy Station Loop (withdrawn)

- Express trains on US 101 Alignment
- 2 tracks to Downtown Gilroy Station
- Additional track miles, impacts & costs

Downtown Gilroy Station

- Design options for Downtown Gilroy:
  - Aerial
  - Trench – Cost 1.3 times Base Case

Coyote Creek

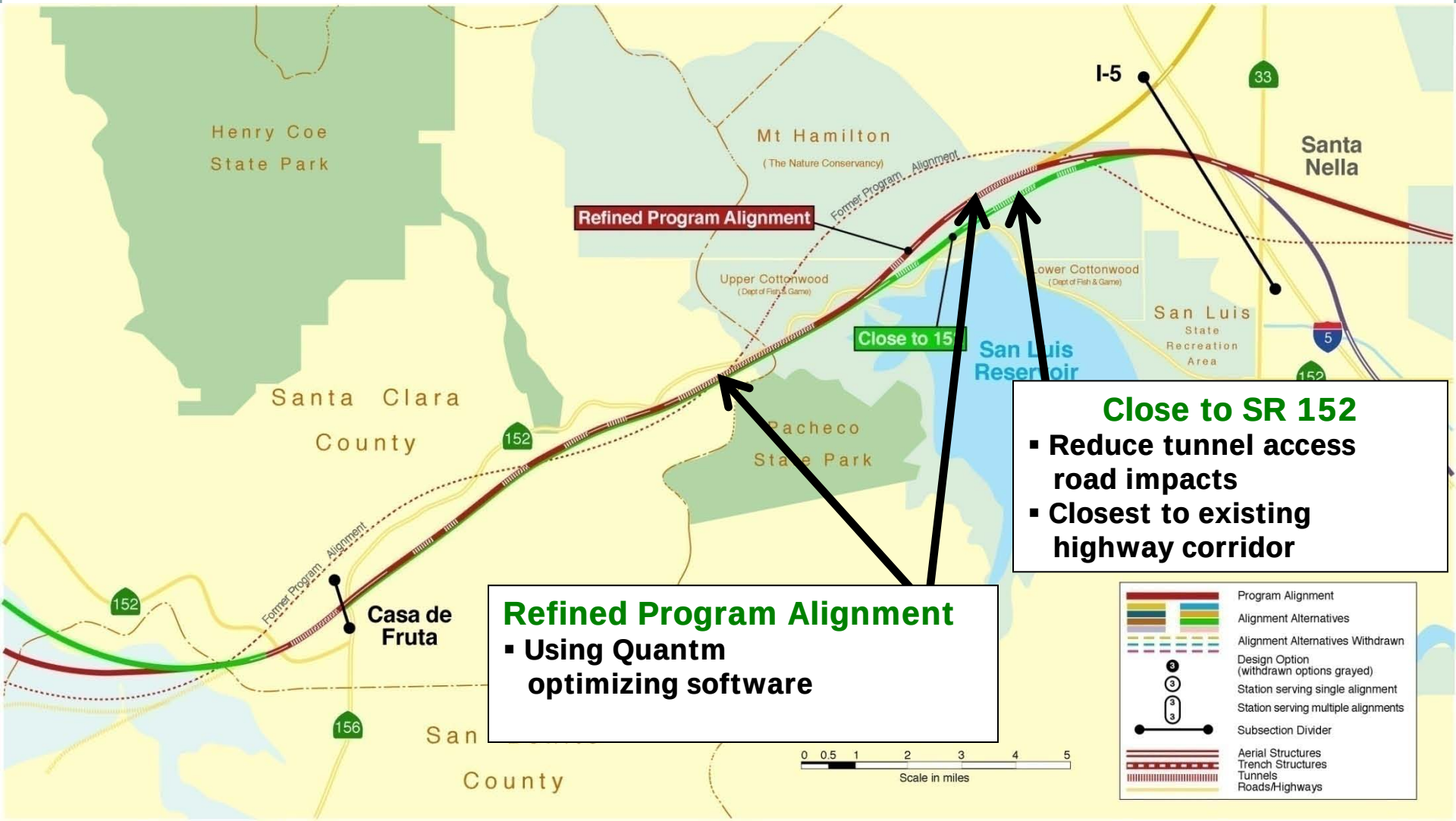
East Gilroy – Leavesley Station

Downtown Gilroy - Trench

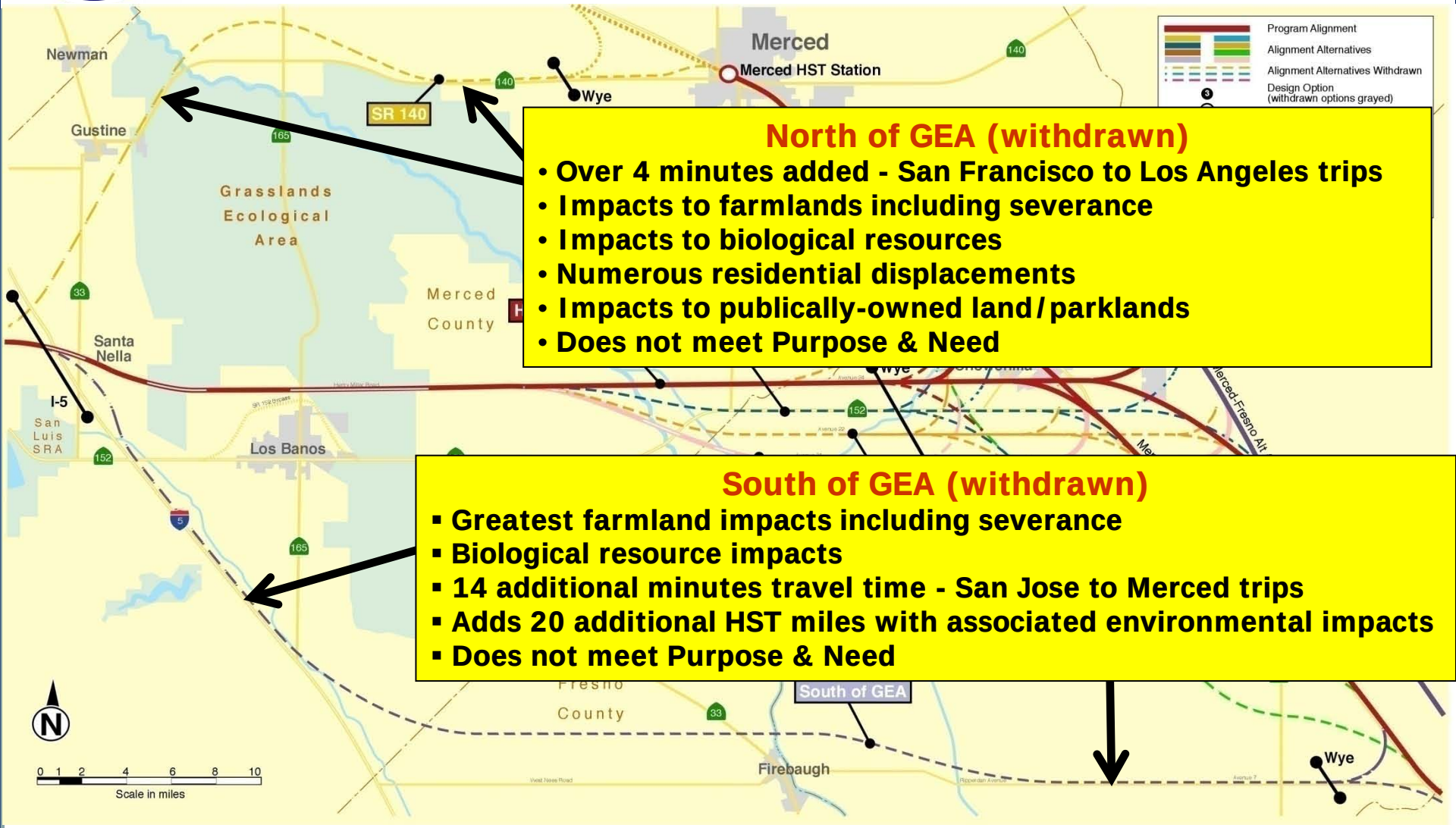
Downtown Gilroy - Aerial

Downtown Gilroy – 6th Street

Pacheco Pass Sub-Section



San Joaquin Valley Crossing Sub-Section



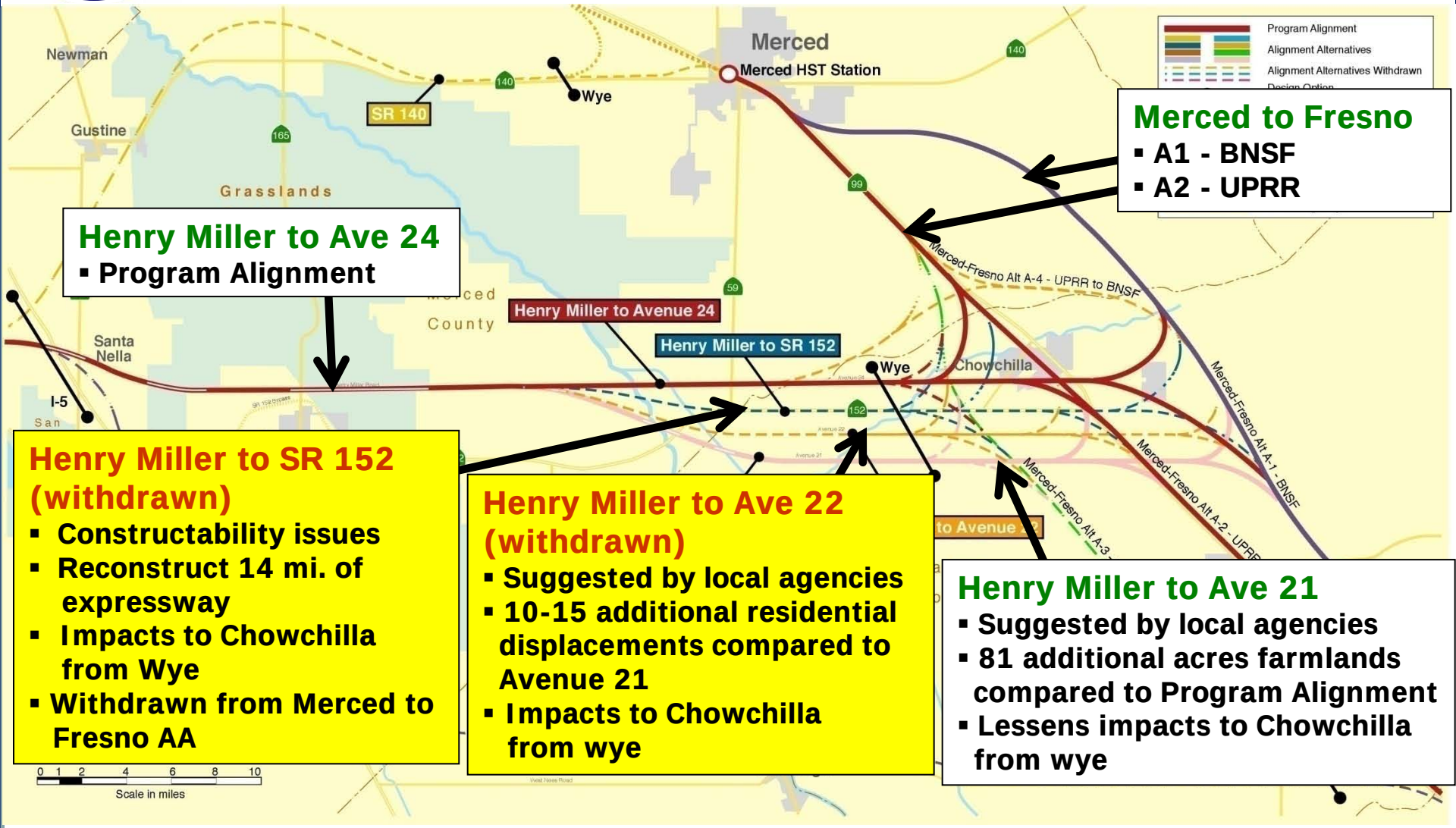
North of GEA (withdrawn)

- Over 4 minutes added - San Francisco to Los Angeles trips
- Impacts to farmlands including severance
- Impacts to biological resources
- Numerous residential displacements
- Impacts to publically-owned land/parklands
- Does not meet Purpose & Need

South of GEA (withdrawn)

- Greatest farmland impacts including severance
- Biological resource impacts
- 14 additional minutes travel time - San Jose to Merced trips
- Adds 20 additional HST miles with associated environmental impacts
- Does not meet Purpose & Need

San Joaquin Valley Crossing Sub-Section



Merced to Fresno
- A1 - BNSF
- A2 - UPRR

Henry Miller to Ave 24
- Program Alignment

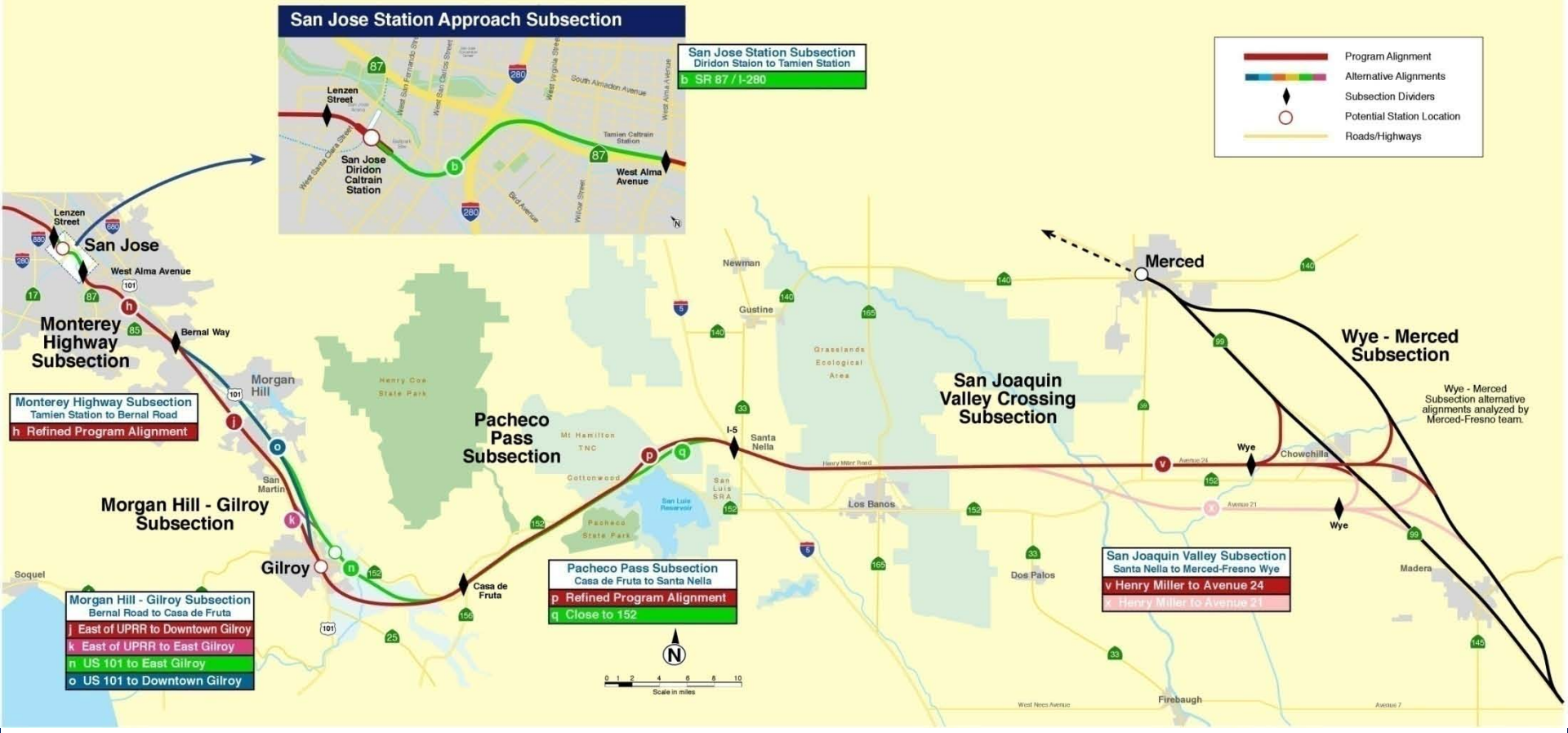
Henry Miller to SR 152 (withdrawn)
- Constructability issues
- Reconstruct 14 mi. of expressway
- Impacts to Chowchilla from Wye
- Withdrawn from Merced to Fresno AA

Henry Miller to Ave 22 (withdrawn)
- Suggested by local agencies
- 10-15 additional residential displacements compared to Avenue 21
- Impacts to Chowchilla from wye

Henry Miller to Ave 21
- Suggested by local agencies
- 81 additional acres farmlands compared to Program Alignment
- Lessens impacts to Chowchilla from wye

Alignments Carried Forward into EIR/EIS

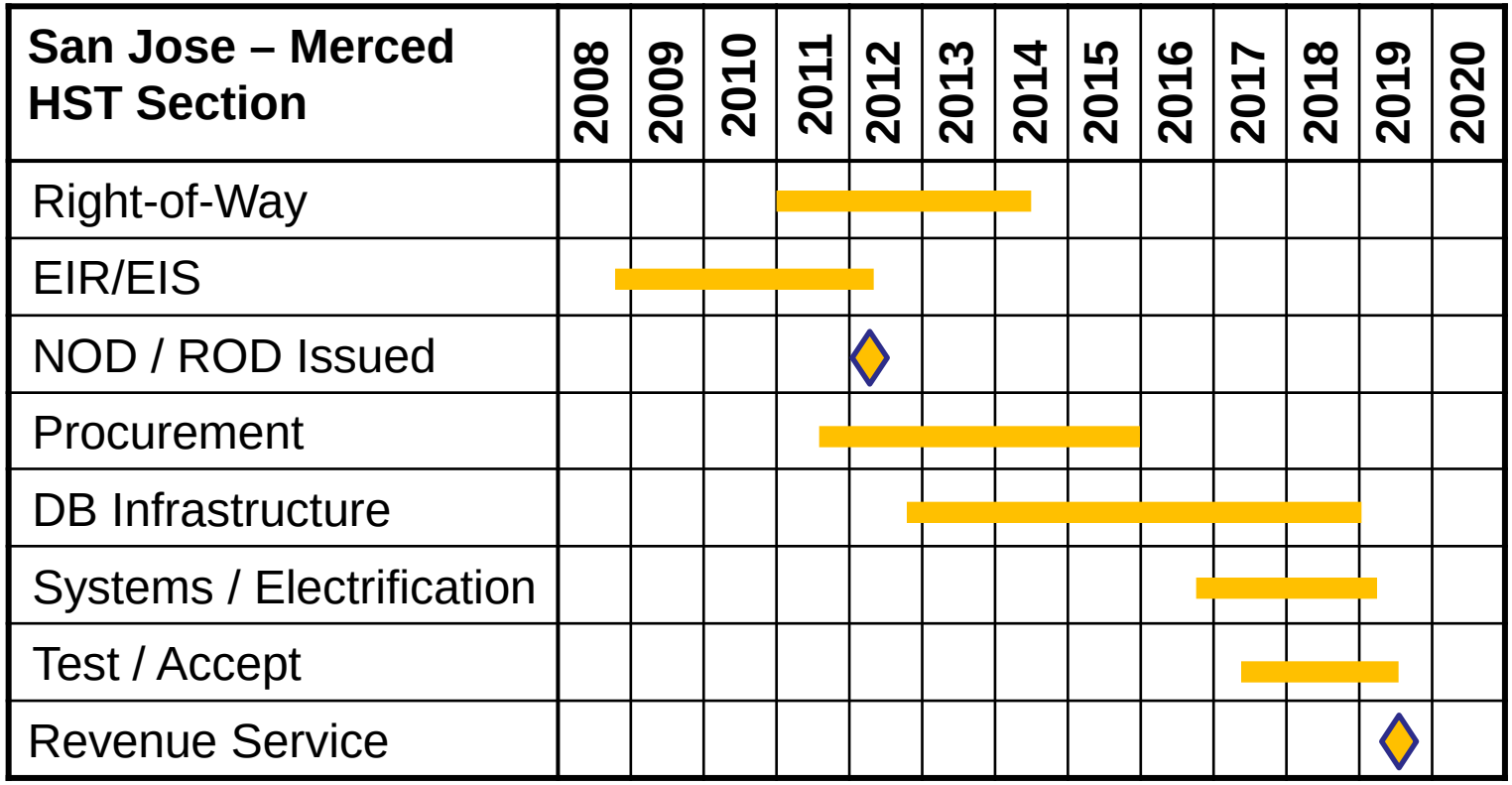
San Jose to Merced Section - Alignment Alternatives



Next Steps

- Public & Agency Meetings on Alternatives Analysis
- Supplemental AA (if needed) – September 2010
- 15 % design – December 2010
- Draft EIR/EIS - July 2011
- Final EIR/EIS - February 2012
- Record of Decision – April 2012

Project Schedule



Questions/Comments

Contact Us:

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Comments:

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